

NEW GEOGRAPHICAL RECORDS FOR SOME FLEAS (SIPHONAPTERA) FROM THE BLACK HILLS OF SOUTH DAKOTA^{1,2}

Emmett R. Easton³

ABSTRACT: New state records for South Dakota and ecological data are presented for the flea species *Megabothris quirini* (Roth) and *Peromyscopsylla catatina* (Jordan). New county records are included for *Hystrihopsylla dippei* (Roth) and *Thrassis stanfordi* Wagner.

Our knowledge of ectoparasites in the Black Hills of South Dakota and Wyoming consists of fragmented records in the literature. Turner (1974) listed 11 species of fleas occurring there in his study of the mammals. The new records supplied here constitute a portion of a more comprehensive study (to be published) of fleas collected from live trapped small mammals during the years 1977, 1978, and 1979. All specimens are in the author's personal collection.

Megabothris quirini (Rothschild)

2♂♂, 17 June 1977, EE20a; 1♂, 18 June 1977, EE21; 5♀♀, 17 July 1977, EE35a; 2♀♀, 17 Sept. 1977, EE68; 1♀, 27 May 1978, EE87; 5♂♂, 3♀♀, 29 May 1978, EE95. Ex. *Zapus hudsonicus*, Spearfish Canyon, 9 miles south of Spearfish along Spearfish Creek, Lawrence County, South Dakota.

M. Quirini was only found on *Zapus* jumping mice in this area even though 12 species of small mammals were examined. According to Holland (1958) this is the only flea species found to regularly occur on *Zapus* and *Napaeozapus* mice, but Whitaker (1979) failed to mention *M. quirini* in his study of *Zapus* ectoparasites in North America. Holland (1949) listed other rodents as hosts such as *Clethrionomys*, *Microtus* and *Peromyscus* as well as the sciurids *Eutamias* and *Tamiasciurus*. The occurrence of *M. quirini* in Bottineau and Grand Forks Counties of central and eastern North Dakota (Woods & Larson, 1969) suggests that with further collecting it will probably be found more widespread in South Dakota.

¹Received October 6, 1980.

²Technical paper no. 1725 of the South Dakota State University Agricultural Experiment Station.

³Plant Science Department, South Dakota State University, Brookings, SD 57007.

Peromyscopsylla catatina (Jordan)

1♀, 18 July 1977, EE40; 1♂, 1♀, 30 July 1978, EE119; 1♀, 18 Sept. 1978, EE78. ex. *Microtus pennsylvanicus*, Spearfish Canyon, 9 miles south of Spearfish, Lawrence County, South Dakota.

A species believed to be confined to the eastern United States and Canada from *Microtus*, *Clethrionomys* and *Napaeozapus* mice (Holland, 1949). The occurrence of this species in the Black Hills of southeastern South Dakota is a definite western extension of its known range. The Black Hills, considered an isolated portion of the Rocky Mountains, contains fauna characteristic of the western United States, even though eastern forms regularly occur.

Thrassis stanfordi Wagner

6♂♂, 5♀♀, 5 May 1979, EE148. Ex. *Marmota flaviventris* 1 mile north of Deadwood; 1♀, 5 May 1979, EE 147, Ex. *Tamiasciurus hudsonicus*, 10 miles southeast of Pluma, Lawrence County, South Dakota.

In the western United States *T. stanfordi* is continuously distributed from Montana through eastern Wyoming and Utah and the western half of Colorado. According to Stark (1970) isolated pockets of this species are found in northern New Mexico and western South Dakota where *M. flaviventris*, its principle host also occurs in disjunct populations. The record of 11 fleas from Lawrence County in the northern Black Hills (this study) along with records from Custer County in the southern Black Hills (Stark op cit) provides evidence that *T. stanfordi* occurs throughout the range (even though isolated) of the yellow bellied marmot in South Dakota.

Hystrihopsylla dippiei spp. (Rothschild)

1♀, 18 Sept. 1977, EE734; 1♀, 5 May 1979, EE779; Spearfish Canyon, 9 miles south of Spearfish, Lawrence County. 1♂, 5♀♀, 13 Oct. 1979, EE228, Ex. *Peromyscus maniculatus*, Spearfish Canyon, 5 miles south of Spearfish, Lawrence County.

1♂, 17 June 1979, EE179, 1♀, 3 May 1980, EE244, Ex. *Microtus pennsylvanicus*, Spearfish Canyon, 5 miles south Spearfish; 1♀, 5 May 1979, EE 147 Ex. *Tamiasciurus hudsonicus* 10 miles south of Pluma, Lawrence County, South Dakota.

H. d. dippiei was earlier reported (1♀) from Custer County in the southern Black Hills by Holland (1957) even though female fleas in the genus *Hystrihopsylla* are difficult to specifically determine. The males of *H. dippiei* collected in this study are more closely related to *H. d. truncata*

as small tubercles are present on the inner angle of sternum IX, a character lacking in *H. d. dippiei* according to Holland.

ACKNOWLEDGEMENT

The author wishes to thank Dr. William L. Jellison (USPHS, retired, Hamilton, Montana) for the identification of *M. quirini* and to Dr. Omer R. Larson (Univ. of N. Dakota, Grand Forks) for the identity of the other species.

REFERENCES CITED

- Holland, G.P. 1949. The Siphonaptera of Canada. Dominion of Canada, Dept. Agr. Tech. Bull. 70. 306 pp.
- Holland, G.P. 1957. Notes on the genus *Hystrichopsylla* Rothschild in the New World, with descriptions of one new species and two new subspecies (*Siphonaptera: Hystrichopsyllidae*) Canada Ent. 89: 309-324.
- Holland, G.P. 1958. Distribution patterns of Northern fleas (Siphonaptera) Proc. 10th Intl. Cong. Ent. 1: 645-58.
- Stark, H.E. 1970. A Revision of the Flea Genus *Thrassis* Jordan 1933 (Siphonaptera: Ceratophyllidae) with observations on ecology and relationship to plague. Univ. Calif. Publ. Entomol. No. 53. Univ. Calif. Berkeley.
- Turner, R.W. 1974. Mammals of the Black Hills of South Dakota and Wyoming. U. of Kansas Mus. Nat. Hist. Misc. Publ. 60. 178 pp.
- Whitaker, J.O. 1979. Origin and evaluation of the external parasite fauna of western jumping mice, Genus *Zapus*. Amer. Midl. Nat. 101: 49-60.
- Woods, C.E. and O.R. Larson. 1969. North Dakota fleas. II. Records from man and other mammals. Proc. N.D. Acad. Science 23: 31-40.

BOOKS RECEIVED AND BRIEFLY NOTED

(Continued from page 37)

DISCRIMINATION OF GENERA OF EUPLECTINI OF NORTH & CENTRAL AMERICA (COLEOPTERA: PSELAPHIDAE). A.A. Grigarick & R.O. Schuster. 1980. Vol. 87. 56 pp. 79 pl. \$14.00.

BEHAVIOR & TAXONOMY OF THE *EPICAUTA MACULATA* GROUP (COLEOPTERA: MELOIDAE). J.D. Pinto. 1980. Vol. 89. 111 pp. 141 figs. \$12.00.

NESTING BIOLOGY & ASSOCIATES OF *MELITOMA* (HYMENOPTERA: ANTHOPHORIDAE). E.G. Linsley, J.W. MacSwain, C.D. Michener. 1980. Vol. 90. 45 pp. 8 figs. \$6.00.

ADULT & IMMATURE TABANIDAE (DIPTERA) OF CALIFORNIA. W.W. Middlekauff, R.S. Lane. 1980. Bull. of the Calif. Insect Survey, Vol. 22. Univ. of Calif. Press. Berkeley. 99 pp. 133 figs. \$10.50.